

To: Enos, Cassandra@DWR (Cassandra.Enos@water.ca.gov)[Cassandra.Enos@water.ca.gov]
Cc: Skophammer, Stephanie[SKOPHAMMER.STEPHANIE@EPA.GOV]; Foresman, Erin[Foresman.Erin@epa.gov]; Hashimoto, Janet[Hashimoto.Janet@epa.gov]
From: Vendlinski, Tim
Sent: Fri 11/21/2014 2:56:55 AM
Subject: RE: Agenda for Monday [BDCP Tech Meeting #3 on mercury & selenium] DWR Bonderson Bldg @ 901 P Street, Room 422 [9:00-12:00]
[EPA mtg agenda 112414.docx](#)
[2012 RARE scope of work LICD revised In Kind Match 04.12.12.docx](#)
[BDCP map infrastructure & ROAs 2010.pdf](#)

Thanks for updating the agenda, Cassandra, and for confirming the meeting.

Janet Hashimoto will be joining the EPA contingent on Monday. Janet supervises our Standards & TMDLs Office and oversees the regulation of mercury and selenium across EPA Region 9.

Our Bay Delta Team had a pre-meeting this morning and discussed a variety of linkages between the issue areas surrounding fisheries, flows, wetlands, selenium, and mercury.

For selenium, one question I had was whether or not increasing selenium loads (from the agricultural sector) into the Delta from increased flows on the SJ River might reach the Carquinez Strait and comingle with the selenium loads from the industrial sector (refineries).

Erin pointed out that if we manage X2 (the low salinity zone) to benefit fish populations, there should be enough seaward outflow to overcome the strong gravitational circulation of the Strait (and the incoming tides), to push these selenium concentrations out into San Pablo Bay and the Ocean beyond. But if outflows are weak, I wonder if the operation of the project will be “doubling-down” on Se concentrations in the Strait and thereby expose aquatic life to lethal concentrations of this contaminant. These ecosystem-scale dynamics might have been missed in the DEIS because it used a relatively compartmentalized approach to evaluating potential risks of Se exposure to individual species.

For mercury, Erin suggested discussing “criteria” for wetlands design so we don’t get sidetracked into a potentially time-consuming discussion about wetlands restoration and methylmercury formation.

Perhaps we can formulate and include such criteria into the SDEIS go that resource and regulatory agencies have some assurances that DWR et al. will design the proposed wetlands with mercury remediation and sequestration in mind.

As I mentioned previously on the phone, I'm concerned that some wetland projects are being designed and installed in the Delta *right now* without proper regard to historical ecology, long-term function and resiliency, and opportunities for sequestering methylmercury.

One approach I hope DWR will consider is summarized in the attached a "scope of work" we prepared with scientists from USGS (J. Fleck and T. Kraus) that proposes a method for restoring wetlands in the subsided Delta while also sequestering MeHg and GHGs, and stabilizing the fragile levees. The most subsided areas of the central and western Delta seem to have been disregarded by restoration planners (see the attached BDCP map from the archives), but there could be real value in prioritizing restoration on subsided islands (e.g., Sherman and Twitchell).

Also on mercury, while there is merit to restoring floodplain functions and aquatic resources within the Yolo Bypass (and providing them with sufficient flows), there needs to be a greater acknowledgement that large quantities of mercury are cycling through the Bypass and Delta, and that "hot spots" in the Bypass might pose serious constraints to the design and implementation of restoration projects. A lot of this mercury apparently comes from Cache Creek (and the Settling Basin) and the abandoned/orphaned mines in the Coast Range.

Questions need to be answered about the stability of the hot spots and potential remedial options that need to be exercised before restoration proceeds (e.g., excavation, capping).

Fortunately, there's an impressive team of scientists from USGS devoted to studying the situation, and we would collectively do well to bring their science forward into the decision-making process.

For your reference, below, I'm pasting-in links to a package of recent papers from USGS that delve deeply into mercury and the Yolo Bypass.

USGS Mercury Studies in the Yolo Bypass [2008-2013]

<http://ca.water.usgs.gov/mercury/riceFields.html>

Methylmercury production in sediment from agricultural and non-agricultural wetlands in the Yolo Bypass, California, USA [Science of the Total Environment; June 2014]

<http://www.sciencedirect.com/science/article/pii/S0048969713011364>

That's plenty for now; see you Monday!

Tim

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From: Enos, Cassandra@DWR [mailto:Cassandra.Enos@water.ca.gov]

Sent: Thursday, November 20, 2014 2:35 PM

To: Foresman, Erin L SPK; Skophammer, Stephanie

Cc: Vendlinski, Tim

Subject: Agenda for Monday

Erin and Stephanie – Attached is a proposed agenda for Monday's meeting. As you will see, I added a discussion of the Modeling Approach items to this meeting. I figured we can cover mercury and selenium from 9-11, then discuss the modeling questions from 11-noon. We will need to be efficient and keep the meeting moving along, so any suggestions you have or additional precise questions would be great. Jennifer asked me if you could send a link to the EPA Guidance Criteria for Water Temperature so she can be prepared to speak to that. I can include the link in the agenda.

Thanks much, C.

Cassandra Enos-Nobriga

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